PA-US 20010207-0

10766404

5

5

CLAIMS:

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

 A method of washing items in an automatic washer having a wash chamber rotatable about a central axis, the method comprising the steps of

loading items into the wash chamber;

supplying wash liquid into the wash chamber; and

oscillating the wash chamber about the central axis by time-varying oscillations.

- 2. The method of claim 1, wherein the wash chamber oscillates for a plurality of periods, each period having at least one clockwise and at least one counter-clockwise oscillation, said time-varying oscillations varying each sequential period.
- 3. The method of claim 1, wherein the wash chamber oscillates for a plurality of periods, each period having at least one clockwise and at least one counter-clockwise oscillation, said time-varying oscillations varying bi-modally after a plurality of sequential periods.

4. The method of claim 1, wherein the wash chamber oscillates for a plurality of periods, each period having at least one clockwise oscillation and at least one counterclockwise oscillation, a time duration of the oscillations selected for each period.

- 5. The method of claim 4, wherein the time durations for each of the periods are randomly selected.
 - 6. The method of claim 4, wherein the time durations for each of the periods are preselected.
 - 7. The method of claim 4, wherein the oscillations are symmetric.

- 8. The method of claim 4, wherein the oscillations are asymmetric.
- 9. The method of claim 1, wherein each oscillation of the wash chamber is followed by a pause, said pauses varying each sequential period.
- 10. The method of claim 1, further comprising the steps of: adjusting an average mean time of the time-varying oscillations responsive to the detected and/or preselected type of items.
- 11. The method of claim 1, further comprising the steps of:
 adjusting an average mean time of the time-varying oscillations responsive to a
 detected and/or preselected amount of items.
- 12. A method of washing items during a wash cycle in an automatic washer having a wash chamber rotatable about a central axis, the method comprising the steps of: loading items into the wash chamber; supplying wash liquid into the wash chamber; and oscillating the wash chamber about the central axis through a clockwise angle of rotation and a counter-clockwise angle of rotation with speed varying oscillations.

5

- 13. The method of claim 12, wherein the angle of rotation traversed by the wash chamber during each clockwise and counterclockwise rotation remains fixed throughout the wash cycle.
- 14. The method of claim 12, wherein the angle of rotation traversed by the wash chamber during each clockwise and counterclockwise rotation varies throughout the wash cycle.
- 15. The method of claim 12, wherein the rotation of the wash chamber pauses for a length of time between each clockwise and counterclockwise rotation.
- 16. The method of claim 15, wherein the length of each pause is identical throughout the wash cycle.

- 17. The method of claim 15, wherein the length of each pause varies throughout the wash cycle.
- 18. The method of claim 12, wherein the speed of rotation of the wash chamber changes at specific fixed time intervals.
- 19. The method of claim 12, wherein the speed of rotation of the wash chamber changes at varying time intervals.
- 20. The method of claim 12, wherein the speed of rotation of the wash chamber varies randomly.
- 21. The method of claim 20, wherein the speed varies within a predetermined range of a base speed.
- 22. The method of claim 12, wherein the speed of rotation of the wash chamber varies according to a predetermined pattern.
- 23. The method of claim 12, wherein the speed of rotation of the wash chamber changes upon the occurrence of a specific event.
- 24. The method of claim 23, wherein the specific event comprises each wash chamber rotation reversal.
- 25. A method of washing items in an automatic washer having a wash chamber rotatable about a central axis, the method comprising the steps of

loading items into the wash chamber;

5

supplying wash liquid into the wash chamber; and

- oscillating and pausing the wash chamber about the central axis by time-varying pauses.
- 26. The method of claim 25, wherein the wash chamber oscillates for a plurality of periods, each period having at least one clockwise oscillation, a pause, and at least one

counter-clockwise oscillation and a pause, said time-varying pauses varying each sequential period.

- 27. The method of claim 25, wherein the wash chamber oscillates for a plurality of periods, each period having at least one clockwise oscillation, a pause, and at least one counter-clockwise oscillation and a pause, said time-varying pauses varying bi-modally after a plurality of sequential periods.
- 28. The method of claim 25, wherein the wash chamber oscillates for a plurality of periods, each period having at least one clockwise oscillation, a pause and at least one counter-clockwise oscillation and a pause, a time duration of the pauses selected for each period.
- 29. The method of claim 28, wherein the time durations for each of the pauses are randomly selected.
 - 30. The method of claim 28, wherein the time durations for each of the periods are preselected.

31.

The method of claim 28, wherein the pauses are symmetric.

The method of claim 28, wherein the pauses are asymmetric.

33. A method of washing items in an automatic washer having a wash chamber rotatable about a central axis, the method comprising the steps of

loading items into the wash chamber;

supplying wash liquid into the wash chamber; and

oscillating the wash chamber about the central axis by stroke angle-varying oscillations.

3433. The method of claim 32, wherein the wash chamber oscillates for a plurality of periods, each period having at least one clockwise and at least one counter-clockwise oscillation, said stroke angle-varying oscillations varying each sequential period.

The method of claim 32, wherein the wash chamber oscillates for a plurality of periods, each period having at least one clockwise and at least one counter-clockwise oscillation, said stroke angle-varying oscillations varying bi-modally after a plurality of sequential periods.

36. The method of claim 32, wherein the wash chamber oscillates for a plurality of periods, each period having at least one clockwise oscillation and at least one counterclockwise oscillation, a stroke angle of each of the oscillations selected for each period.

The method of claim 35, wherein the stroke angles for each of the periods are randomly selected.

The method of claim 35, wherein the stroke angles for each of the periods are preselected.

39. The method of claim 35, wherein the oscillations are symmetric.

The method of claim 35, wherein the oscillations are asymmetric.